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(54) Title: A NOVEL MUTATED NERVE GROWTH FACTOR BETA GENE, PROTEINS ENCODED THEREBY, AND PRODUCTS AND METHODS RELATED THERETO

(57) Abstract: A point mutation responsible for loss of pain perception is identified and disclosed. The loss of pain perception resulting from the genetic mutation is characterized by impairment in the sensing of deep pain and temperature but with mental abilities and most other neurological responses intact. The mutation occurs in the coding region of the nerve growth-factor beta (NGFB). The NGF mutation separates the effect of NGF mediating a normal development of functions of the central nervous system, such as mental abilities, from effects on the nervous system involved in peripheral pain pathways. New screening methods, research tools, and therapies involving pain pathways related to the point mutation are provided.

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